



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D119-646-243
Job Sheet 187675



Part No: D119-646-243

Job Qty: 1 ea

Part Name: AW119 Repl. Skidtube with Heavy Duty Wearplates, Float Compatible -Fits LH or RH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/11/18

Job Tracking No:

Due Date: 1/17/19

Created By: Jesse White

Type: Stock

Description:

Note: IIN-D119-646 REV D, D3905-045 REV.F IPP RevA: New issue DD verified by:EC IPP REV.B 12.11.05 (DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:C 13.03.20 per chg003 ECN13-534 DD verf:JLM IPP REV:D 15.01.19 AS PER ECN-14-628 DD verf:JLM IPP REV:E 16.11.02 chg as per D3905 revD(DEO) DD verf:JLM IPP REV:F 17.05.19 as per dwg D3905 rev.e DD verf:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	1/17/19	1/17/19	0.00	0.00	Start Up Skidtubes-1		MGA
110	Skidtubes	1 pcs	1/17/19	1/17/19	0.00	2.07	Skidtubes-1		MGA
120	HandFinish	1 pcs	1/17/19	1/17/19	0.00	1.05	HandFinish1		D.R. 18/12/12
130	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC7-1		MGA
150	Skidtubes	1 pcs	1/17/19	1/17/19	0.00	2.07	Skidtubes-1		ng
155	CNC Bend Skidtubes	1 pcs	1/17/19	1/17/19	0.00	1.20	CNC Bend Skidtube		MGA
165	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		BE
180	Skidtubes	1 pcs	1/17/19	1/17/19	0.00	2.07	Skidtubes-1		TY MGA
190	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		BE
200	CNC Bend Skidtubes	1 pcs	1/17/19	1/17/19	0.00	1.20	CNC Bend Skidtube		MGA
210	Skidtubes	1 pcs	1/17/19	1/17/19	0.00	1.41	Skidtubes-1		JY
220	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		BE
224	Skidtubes	1 pcs	1/17/19	1/17/19	0.00	3.70	Skidtubes-1		BE MGA
225	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		38 DAS
226	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC10		9-88 38
227	HandFinish	1 pcs	1/17/19	1/17/19	0.00	1.05	HandFinish2		SA 19/01/18
240	SprayPaint	1 pcs	1/17/19	1/17/19	0.00	0.56	Spray Paint		AS 19-1-26
242	Outsource	1 pcs	1/17/19	1/17/19			ATE003-VC	5	N/R
245	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC14		M 19-01-
250	HandFinish	1 pcs	1/17/19	1/17/19	0.00	1.05	HandFinish4		M 19-01-
260	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		38
270	HandFinish	1 pcs	1/17/19	1/17/19	0.00	1.49	HandFinish4		M 19-01-
280	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		38
285	HandFinish	1 pcs	1/17/19	1/17/19	0.00	1.05	HandFinish3		10-88
286	QC	1 pcs	1/17/19	1/17/19	0.00	0.00	QC5		38
288	DC	1 pcs	1/17/19	1/17/19	0.00	0.00	DC		9-88
290	Packaging	1 pcs	1/17/19	1/17/19	0.00	0.00	Packaging3-1		DAS
300	QC21-FG	1 Ea	1/17/19	1/17/19	0.00	0.00	QC21		21 JA

Part Op 110 - 1- Inspect Mat'l D2500-1-190 for damage 2- Ensure squareness of ends

Plex 12/11/18 1:0

- Root Cause
- Operator
 - Manufacturing Process
 - Equip/Tooling
 - Handling/Preservation
 - Material
 - Product Improvement
 - Process Improvement
 - Human Factors

- Other/Details:
- Pressure/Fo
 - Bending
 - Crushing
 - Cracks
 - Crimp/Kink/Ripple/W
 - Marks/Chatter
 - Mislabeled

DAR
AEROSPACE
Container No: S136927
Part: D119-646-243
Job No: 187615
Serial No/Batch: S136927
Revision: D.F
Inspector:
Exp Date:
Instructions: FAA STC SR02024SE 151002201102010A P-09-0407-RDIMS

120 Aerotech Street, 1K7
Wellesley, ON K6A 1K7
CANADA
TEL: 1 813 832-5200
Email: sales@darinc.com
www.darincsp.com

- Positioned Wrong
- Outside Tolerance
- Drawing
- Finish
- Part Lost/Missing
- Misread
- Weld
- Wrong Stock Pulled
- Out of Sequence
- Off-set/Set-up

Coordinator
Hand / Supervisor
Completed By

Description Work Order Deviation

Sequence #:

Date:

NCR No.

Part No.

Job:

DISPOSITION

- Rework
- Scrap
- Use-as-is

- Skid-tube
- Machining
- Large Fab

- Cross tube
- Small Fab
- Finishing

DEPARTMENT/PROCESS

Route update only

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

MRB (Q51042)

- Engineering
- Water Jet
- Supplier
- Quality

- on-AW)
- Coor.
- aging

Descriptions: 120 - Chemical Conversion Coat per QSI005 4.1

130 - QC7-Inspect Chemical Conversion Coat

150 - 1- Install drill jig DT9480 drill all x-bolt spacer holes using 3/16 drill first side only. 2- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes. 3- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477 4- Scribe batch # inside aft end of tube

155 - 1- Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Must use bending Aid DT9538, located 23.25" from Aft end. 2- Ensure bending Aid DT9538 is positioned correctly, that the bender set up in on full wide and that the indexing ridge is covered with graphite grease.

165 - QC5- Inspect part completeness to step on W/O

180 - 1- Verify dimension of bend as per dwg D3905 2- Buff out marks left from bending. 3- Drill Aft Float bag holes using DT9493 as per dwg D3905 detail G and section F-F, open to finished size 4- Open x-bolt spacer holes to finished size as per dwg (sections D-D and E-E) ***DO NOT OPEN FWD SADDLE HOLES*** 5- Drill Aft wearplate and wearpad holes using DT9546 and DT9545 as per dwg D3905 detail G open to finished size 6- Deburr, blow out chips from inside of tube 7- Bond web in place as per Dwg D3905 & QSI 015. A/R Sikaflex-291 M138984 Sikaflex expire

date: 03-07-19 Start: _____ Time: _____ Finish: _____ Time: _____ ***** (Adhere for 12 hours)*****

190 - QC5- Inspect part completeness to step on W/O

200 - 1- Bend Fwd end of tube using bender 1 and bend prog. D3905 & Folio -04 Fwd. Use bending aid DT9544 ensure proper positioning 2- Cut Fwd end of tube as per dwg. ***VERIFY MEASUREMENT BEFORE CUTTING***

210 - 1- Buff out marks left from bending 2- Drill Fwd cap holes using DT8215. 3- Open Fwd saddle holes to finished size as per dwg 4- Drill Fwd x-bolt hole and open to finished size using DT9816 5- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg. 6- Drill towing hole using DT10047 locate from FWD saddle hole and open to finished size. 7- C'sink FWD cap hole as per detail "C" 10- Deburr, blow out chips from inside of tube.

220 - QC5- Inspect part completeness to step on W/O

224 - NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD GROUND HANDLING FIXTURE, IF

FIXTURE FITS WELL THEN PROCEED. FIXTURE DT10091. 1- Countersink x-bolt holes as per dwg 2- Remove alodine prepare for welding 3- Insert x-bolt spacers 4- Weld x-bolt spacer as per dwg A/R Alum rod Batch: 138984 5- Grind welds flush as per dwg 6- Counter bore x-bolt holes as per dwg 7- Deburr 8- Pick D2855-5 cap and transfer drill missing hole. Deburr and identify cap with skid tube batch#.

225 - QC5- Inspect part completeness to step on W/O TEST FIT USING FIXTURE DT10091.

226 - QC10- Inspect visual per QSI004- ground welds

227 - Pressure Wash per QSI005 4.3

240 - Spray Painting per QSI005 4.2 *****AS PER DEO DETAIL "F" NOTE 8, SHEET 8 MASK THIS AREA, DO NOT APPLY PRIMER OR PAINT***** PRIME AS PER DWG AND QSI 005 4.2 BATCH: 138976 PAINT WHITE AS PER DWG AND QSI 005 4.2 BATCH: 5146086

245 - QC14- Inspect Spray Paint

250 - Assemble as per dwg 1-Install inserts as per Dwg D3905.

260 - QC5- Inspect part completeness to step on W/O

270 - 1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in insert before installing bolts and washers A/R Sikaflex-240/-291 M128386 Sikaflex expire date: 14-01 2- install plugs assembly as per dwg. 3- Inspect for foreign objects as per QSI 024 4- Install D2855-3 Cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 M128386 Sikaflex expire date: 14-01 5- Install insert in D2855- Cap. Install cap and seal with Sikaflex. Clean excess adhesive. A/R Sikaflex-240/-291 M128386 Sikaflex expire date: 14-01

6- Install (2) D5101-041 and (1) D5101-047 as per dwg by using DT10117 7- INSTALL PLUGS

280 - QC5- Inspect part completeness to step on W/O

285 - Wing Walk as per dwg QSI005 4.4 Batch 5138963

286 - QC5- Inspect part completeness to step on W/O

288 - Document Control Photocopy bluefile & type labels per PPP D119-646-243 CHG 006

290 - Identify as per dwg & Stock Location: _____

300 - QC21- Final Inspection - Work Order Release

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job BOM

007794

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -1' Beam Tube 4"	1 pcs (1 ea)	90-Start up Operation	5112963
D3885-3	Float Web	1 Ea (1 ea)	180-Skidtubes	5096476
D2579	Crossbolt Spacer	2 pcs (2 ea)	224-Skidtubes	5051552*1 5097840*1
D2855-5	Cap	500x75 1 pcs (1 ea)	224-Skidtubes	5103210x6 5116457*6
D3681-1	Spacer	12 Ea (12 ea)	224-Skidtubes	5103210x6 5116457*6
D3903-1	Spacer	12 pcs (12 ea)	224-Skidtubes	5144456
ALS4-1032-130	Rivnut	10 Ea (10 ea)	250-HandFinish	5007279
ALS4-1032-225	Rivnut	1 Ea (1 ea)	270-HandFinish	5058138
AN3C46A	Bolt	4 Ea (4 ea)	270-HandFinish	5095398
AN3C50A	Bolt	4 Ea (4 ea)	270-HandFinish	5109956
AN3C5A	Bolt	12 Ea (12 ea)	270-HandFinish	5075996
AN4C46A	Bolt	3 Ea (3 ea)	270-HandFinish	5100406
D2855-3	Cap	1 pcs (1 ea)	270-HandFinish	5126403
D3411-3	Washer	24 Ea (24 ea)	270-HandFinish	5145622
D3672-1	Washer, Phenolic	2 Ea (2 ea)	270-HandFinish	FK64008
D3847-1	Wearpad	1 Ea (1 ea)	270-HandFinish	5133454
D3847-11	Wearpad (5105208)	1 Ea (1 ea)	270-HandFinish	5146275
D3849-045	Aft Heavy-Duty Wearplate, Float Skid Compatible	1 Ea (1 ea)	270-HandFinish	5146137
D3849-047	Fwd Heavy-Duty Wearplate, Float Skid Compatible	1 Ea (1 ea)	270-HandFinish	5141327
D3904-1	Washer	16 pcs (16 ea)	270-HandFinish	5145329
D5101-041	Crossbolt Spacer Assembly	2 Ea (2 ea)	270-HandFinish	5103111
D5101-047	Crossbolt Spacer Assembly	1 Ea (1 ea)	270-HandFinish	5143483
D5101-3	Insert	6 Ea (6 ea)	270-HandFinish	5143974
D5101-5	Insert	6 Ea (6 ea)	270-HandFinish	5099869
MS21043-3	Nut	8 Ea (8 ea)	270-HandFinish	5119223
MS21043-4	Nut	3 Ea (3 ea)	270-HandFinish	5067268
MS24694-C52	Screw	2 Ea (2 ea)	270-HandFinish	5124666
NAS1149C0332R	Washer	8 Ea (8 ea)	270-HandFinish	FM131811
NAS1149D0416J	Washer	3 Ea (3 ea)	270-HandFinish	5137611
D3492-5	Plug	8 Ea (8 ea)	270-HandFinish	5057657
NAS1611-005	O-Ring	8 Ea (8 ea)	270-HandFinish	

007798

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐					
Date :		Sequence #:		QTY Affected :		MRB (QSI042)	
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor			
				QC / QA Coordinator			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread					
Other/Details:							

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-190	1	54	0
180-Skidtubes	D3885-3	1	12	0
224-Skidtubes	D2579	2	199	0
	D2855-5	1	120	0
	D3681-1	12	132	0
	D3903-1	12	81	0
250-HandFinish	ALS4-1032-130	10	10,515	0
270-HandFinish	ALS4-1032-225	1	1,230	0
	AN3C46A	4	103	0
	AN3C50A	4	173	0
	AN3C5A	12	1,492	0
	AN4C46A	3	160	0
	D2855-3	1	51	0
	D3411-3	24	42	0
	D3492-5	8	119	0
	D3672-1	2	1,399	0
	D3847-1	1	40	0
	D3847-11	1	24	0
	D3849-045	1	2	0
	D3849-047	1	1	0
	D3904-1	16	56	0
	D5101-041	2	2	0
	D5101-047	1	4	0
	D5101-3	6	9	0
	D5101-5	6	6	0
	MS21043-3	8	838	0
	MS21043-4	3	751	0
	MS24694-C52	2	120	0
	NAS1149C0332R	8	2,508	0
	NAS1149D0416J	3	2,098	0
	NAS1611-005	8	303	0

Part Specifications

Specifications could not be found.

Plex 12/11/18 1:09 PM dart.white.jesse

Entered: _____ Date: _____

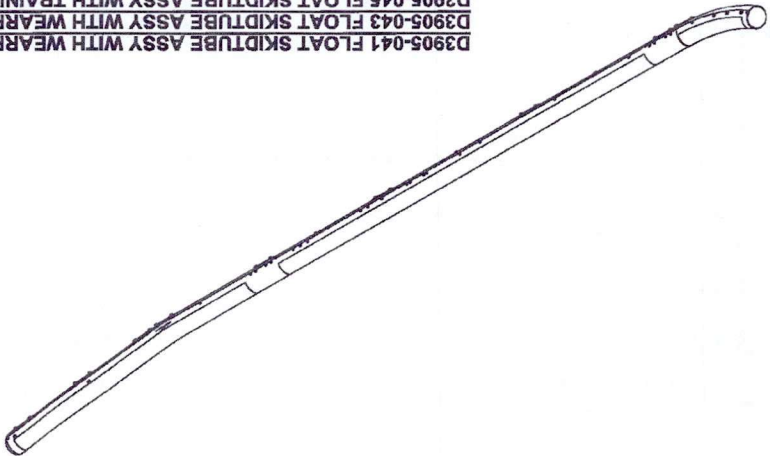


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

RELEASED
2018 OCT 19
ECN 10-7491

2018 OCT 19 14:01:41

APPROVED

DATE	18.08.16	CONTRACT NO 2008 05 000				
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

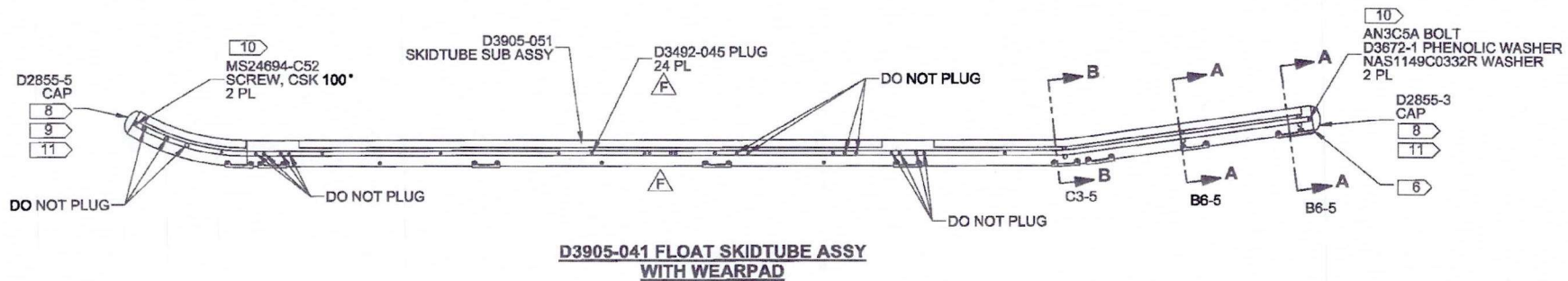
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	QTY -041	P/N	DESCRIPTION
	X	D3905-041	SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	24	D3492-045	PLUG
4	2	D3872-1	PHENOLIC WASHER
5	8	D3847-1	WEARPAD
6	1	D3847-11	WEARPAD
7	1	D3905-051	SKIDTUBE SUB ASSEMBLY
8	2	D5101-041	CROSSBOLT SPACER ASSY
9	1	D5101-047	CROSSBOLT SPACER ASSY
10	6	D5101-3	INSERT
11	6	D5101-5	INSERT

ITEM	QTY -041	P/N	DESCRIPTION
12	1	ALS4-1032-225	INSERT
13	6	AN3C4A	BOLT
14	38	AN3C5A	BOLT
15	3	AN4C46A	BOLT
16	3	MS21043-4	NUT, SELF-LOCKING
17	2	MS24694-C52	SCREW, CSK 100°
18	44	NAS1149C0332R	WASHER
19	6	NAS1149C0416R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-041" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 35.4 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

RELEASED

2018 OCT 19

DESIGN		AJS		DART AEROSPACE USA, INC.	
DRAWN		ZF		EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. F		
MFG. APPR.	DD	D3905	SHEET 2 OF 14		
APPROVED	NO	TITLE	SCALE		
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY			
DATE	18.08.16				

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

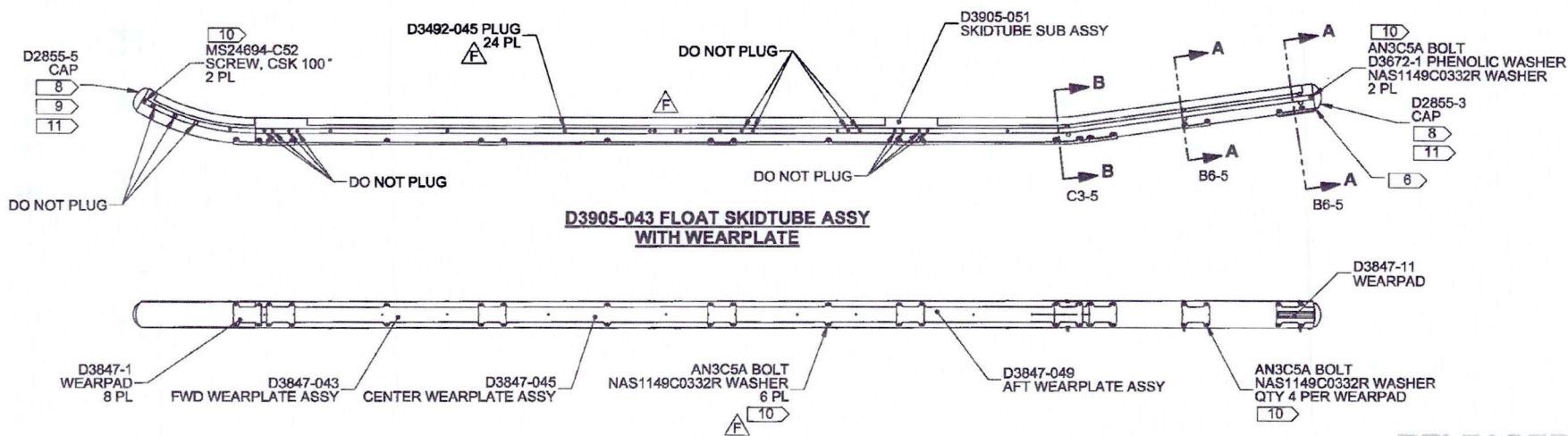
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	QTY -043	P/N	DESCRIPTION
	X	D3905-043	FLOAT SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	24	D3492-045	PLUG
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-043	FWD WEARPLATE ASSY
6	1	D3847-045	CENTER WEARPLATE ASSY
7	1	D3847-049	AFT WEARPLATE ASSY
8	8	D3847-1	WEARPAD
9	1	D3847-11	WEARPAD
10	1	D3905-051	SKIDTUBE SUB ASSEMBLY
11	2	D5101-041	CROSSBOLT SPACER ASSY
12	1	D5101-047	CROSSBOLT SPACER ASSY
13	6	D5101-3	INSERT
14	6	D5101-5	INSERT

ITEM	QTY -043	P/N	DESCRIPTION
15	1	ALS4-1032-225	INSERT
16	44	AN3C5A	BOLT
17	3	AN4C46A	BOLT
18	3	MS21043-4	NUT, SELF-LOCKING
19	2	MS24694-C52	SCREW, CSK 100°
20	44	NAS1149C0332R	WASHER
21	6	NAS1149C0416R	WASHER



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-043" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 42.8 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-051 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

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2018 OCT 19

DESIGN		A.J.S		DART AEROSPACE USA, INC.	
DRAWN		ZF		EUGENE, OR	
CHECKED		MW		DRAWING NO. D3905	
MFG. APPR.		DD		REV. F	
APPROVED		NO		SHEET 3 OF 14	
DE APPR.		DS		SCALE	
DATE		18.08.16		TITLE	
				A119 FLOAT SKIDTUBE ASSY	
				NTS	

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

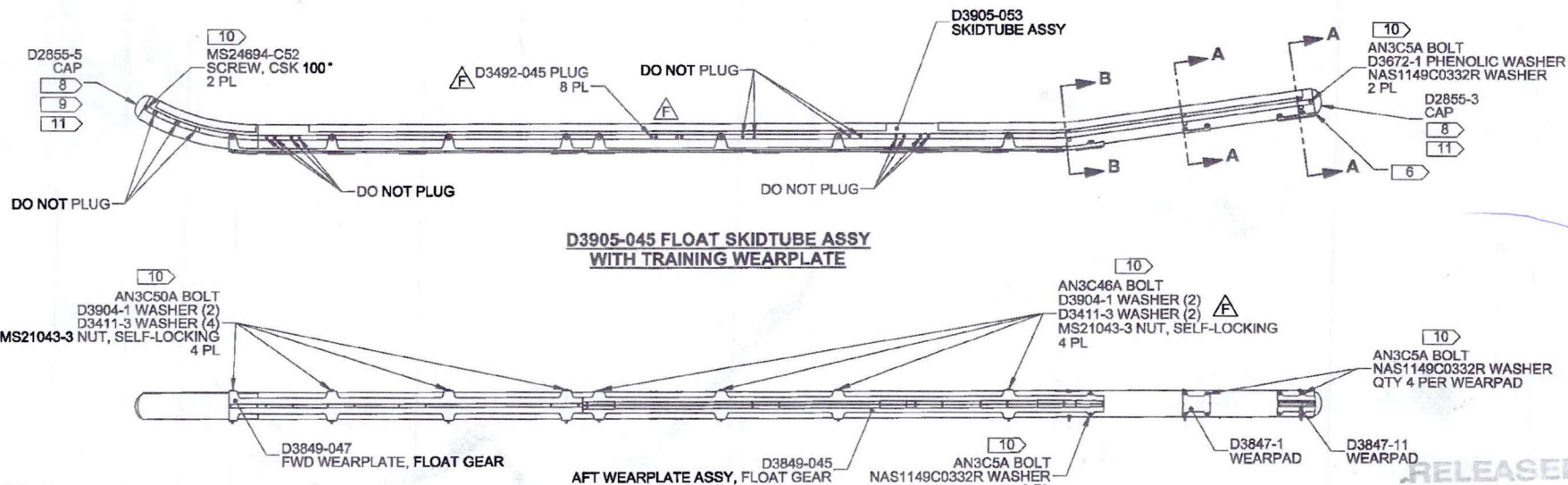
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	QTY -045	P/N	DESCRIPTION
	X	D3905-045	FLOAT SKIDTUBE ASSY
1	1	D2855-3	CAP
2	1	D2855-5	CAP
3	24	D3411-3	WASHER
4	2	D3672-1	PHENOLIC WASHER
5	1	D3847-1	WEARPAD
6	1	D3847-11	WEARPAD
7	1	D3849-045	AFT WEARPLATE ASSY, FLOAT GEAR
8	1	D3849-047	FWD WEARPLATE, FLOAT GEAR
9	16	D3904-1	WASHER
10	1	D3905-053	SKIDTUBE SUB ASSEMBLY
11	2	D5101-041	CROSSBOLT SPACER ASSY
12	1	D5101-047	CROSS BOLT SPACER
13	6	D5101-3	INSERT
14	6	D5101-5	INSERT

ITEM	QTY -045	P/N	DESCRIPTION
15	1	ALS4-1032-225	INSERT
16	12	AN3C5A	BOLT
17	4	AN3C46A	BOLT
18	4	AN3C50A	BOLT
19	3	AN4C46A	BOLT
20	8	MS21043-3	NUT, SELF-LOCKING
21	3	MS21043-4	NUT, SELF-LOCKING
22	2	MS24694-C52	SCREW, CSK 100°
15	12	NAS1149C0332R	WASHER
24	6	NAS1149D0416J	WASHER
25	8	D3492-045	PLUG



NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3905-045" AND BATCH NUMBER PER QSI 044 6.4 ON THE ID OF THE TUBE, BEFORE INSTALLING THE AFT D2855-3 CAP
- 7) WEIGHT: 48.0 lbs
- 8) RELIEVE INNER RIDGE OF EXTRUSION, AS NEEDED, TO ALLOW FOR INSTALLATION OF D2855-3 AND D2855-5 CAP ASSY, ALODINE BARE MATERIAL
- 9) USE D3905-053 SKIDTUBE ASSY TO LOCATE AND BACKDRILL UNDRILLED INSERT HOLE INTO D2855-5 CAP, OPEN HOLE TO $\varnothing 0.297$, ALODINE BARE MATERIAL AND INSTALL ALS4-1032-225 (OR AKS7-1032-225, OR ALS7-1032-225, OR AKS4-1032-225) INSERT ON INSIDE OF CAP.
- 10) SEAL FASTENERS WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
- 11) SEAL MATING SURFACES WITH SIKAFLEX -241/291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

APPROVED

DESIGN	AJS
DRAWN	ZF
CHECKED	MW
MFG. APPR.	DD
APPROVED	NO
DE APPR.	DS
DATE	18.08.16

DART AEROSPACE USA, INC.

EUGENE, OR

DRAWING NO. **D3905** REV. F

SHEET 4 OF 14

TITLE SCALE

A119 FLOAT SKIDTUBE ASSY NTS

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

8 7 6 5 4 3 2 1

D

C

B

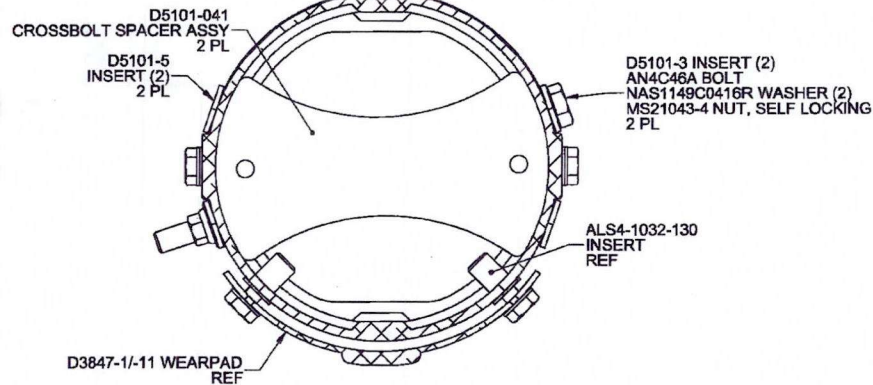
A

D

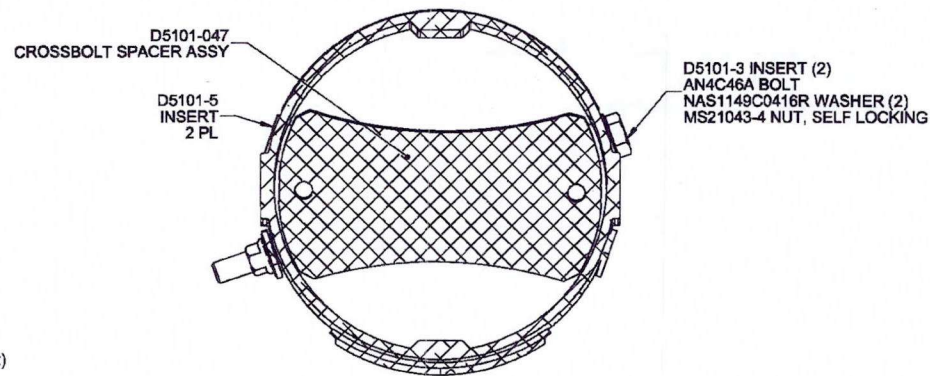
C

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A



SECTION A-A
SCALE: 12X



SECTION B-B
SCALE 12X

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2018 OCT 19 41

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DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. F
MFG. APPR.	DD	D3905	SHEET 5 OF 14
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	
DATE	18.08.16	NTS	

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Entered: _____ Date: _____



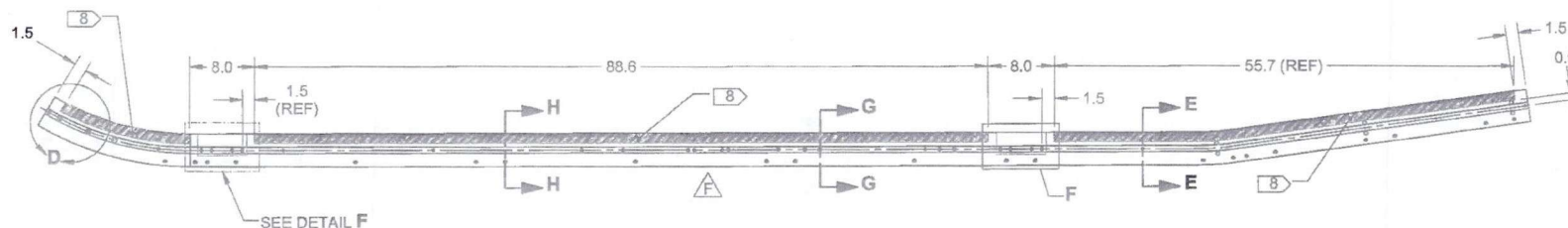
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor
					QC / QA Coordinator
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	QTY -051	P/N	DESCRIPTION
	X	D3905-051	SKIDTUBE SUB ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	SPACER
3	12	D3903-1	SPACER
4	1	D3905-061	SKIDTUBE SUB ASSEMBLY
5	42	ALS4-1032-130	INSERT



D3905-051 SKIDTUBE SUB ASSEMBLY

RELEASED

2018 OCT 1 9 40

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50" ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

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DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. F
MFG. APPR.	DD	D3905	SHEET 6 OF 14
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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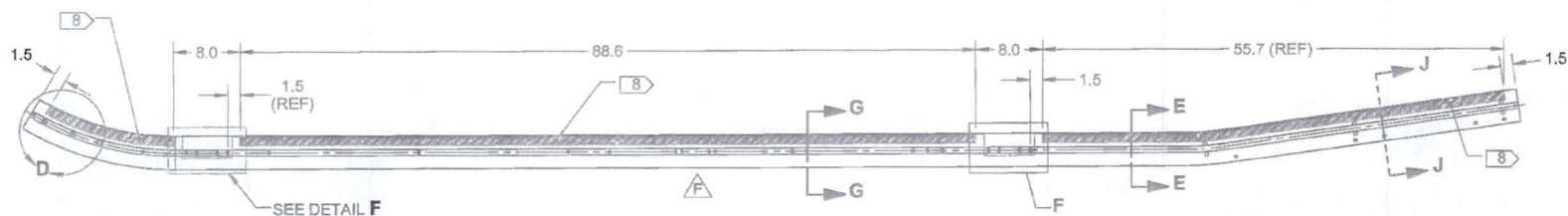
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					

ITEM	QTY -053	P/N	DESCRIPTION
	X	D3905-053	SKIDTUBE SUB ASSY
1	2	D2579	CROSS BOLT SPACER
2	12	D3681-1	SPACER
3	12	D3903-1	SPACER
4	1	D3905-063	SKIDTUBE SUB ASSEMBLY
5	10	ALS4-1032-130	INSERT



D3905-053 SKIDTUBE SUB ASSEMBLY

RELEASED
2018 OCT 19

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY AT NEXT ASSEMBLY
- 7) WEIGHT: N/A
- 8) AFTER APPLICATION OF FINISH, PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 0.50" ABOVE LOCATION RIDGE, PER QSI 005 SECTION 4.4

APPROVED	DESIGN	AJS	DART AEROSPACE USA, INC. EUGENE, OR	
	DRAWN	ZF		
	CHECKED	MW	DRAWING NO.	REV. F
	MFG. APPR.	DD	D3905	SHEET 7 OF 14
	APPROVED	NO	TITLE	SCALE
	DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

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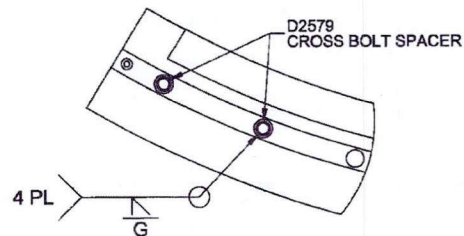
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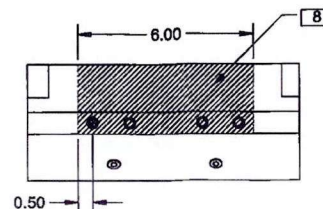
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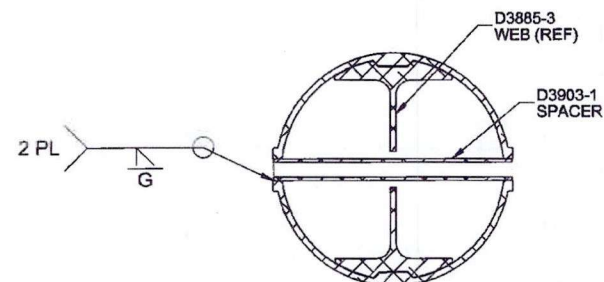
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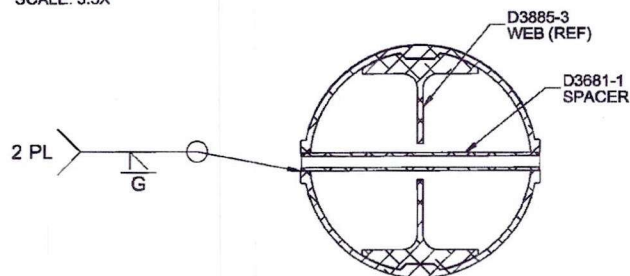
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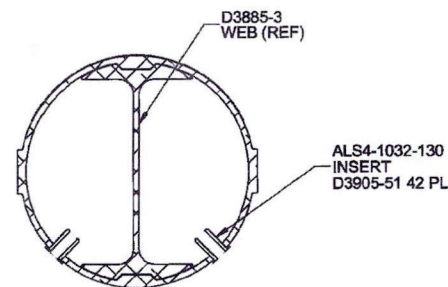
DETAIL F
SCALE: 3.5X



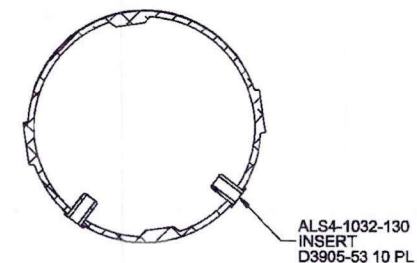
SECTION G-G
SCALE: 7X
12 PL



SECTION E-E
SCALE: 7X
12 PL



SECTION H-H
SCALE: 7X
D3905-51 21 PL



SECTION J-J
SCALE: 7X
D3905-53 5 PL

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.2.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) MASK THIS AREA AND DO NOT APPLY PRIMER OR PAINT
- 9) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION G-G $\phi 0.375$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.475 \times 45^\circ$
 - ii) INSERT D3903-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) C-BORE TO $\phi 0.313 \times 0.75$ DEEP
 - v) DEBURR HOLES
- 10) AFTER DRILLING AND BENDING ASSEMBLY, PERFORM THE FOLLOWING FOR THE SECTION E-E $\phi 0.313$ HOLES ONLY:
 - i) CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - ii) INSERT D3681-1 SPACER
 - iii) WELD INTO PLACE AND GRIND FLUSH
 - iv) DEBURR HOLES
- 11) WELD PER DART QSI 004

RELEASED

2018 OCT 19

APPROVED

DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. F
MFG. APPR.	DD	D3905	SHEET 8 OF 14
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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Entered: _____ Date: _____



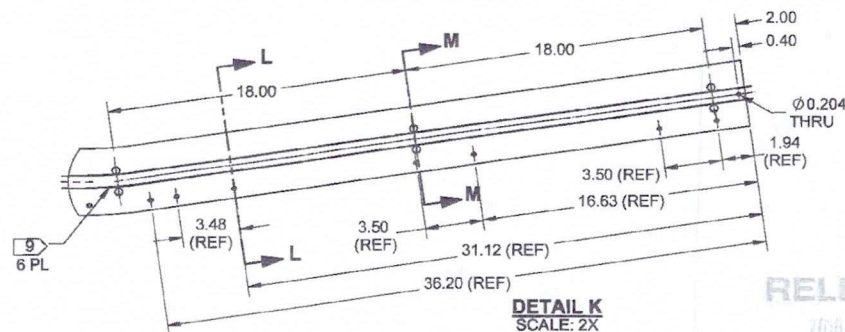
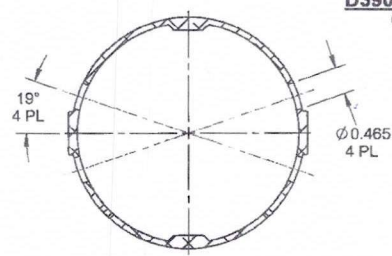
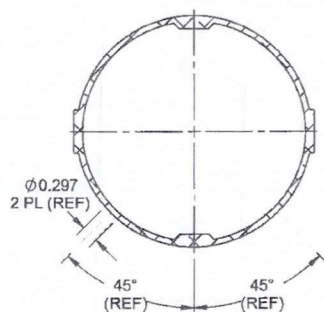
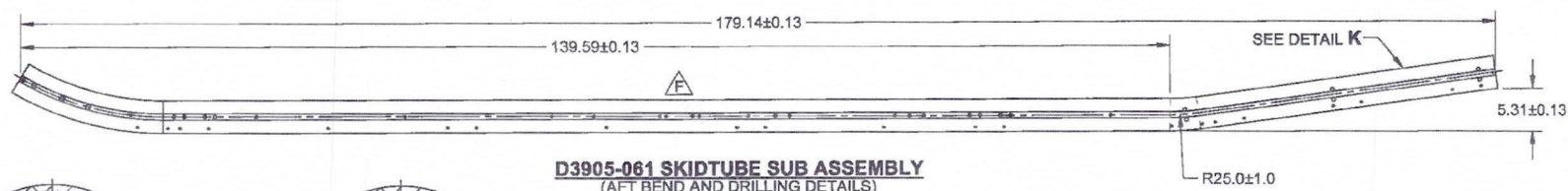
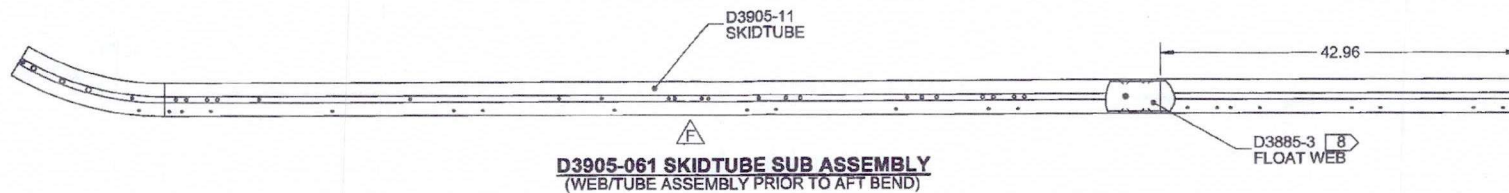
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

ITEM	QTY -061	P/N	DESCRIPTION
	X	D3905-061	SKIDTUBE SUB ASSEMBLY
1	1	D3885-3	FLOAT WEB
2	1	D3905-11	SKIDTUBE



RELEASED
2008 OCT 19

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING. ENSURE HOLES LINE-UP
- 9) RELIEVE RIDGE FLUSH WITH SKIDTUBE FOR INSERT CLEARANCE, MAX 0.130 INTO RIDGE

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	DRAWN	ZF		
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	APPROVED	NO	TITLE	SCALE
	DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	
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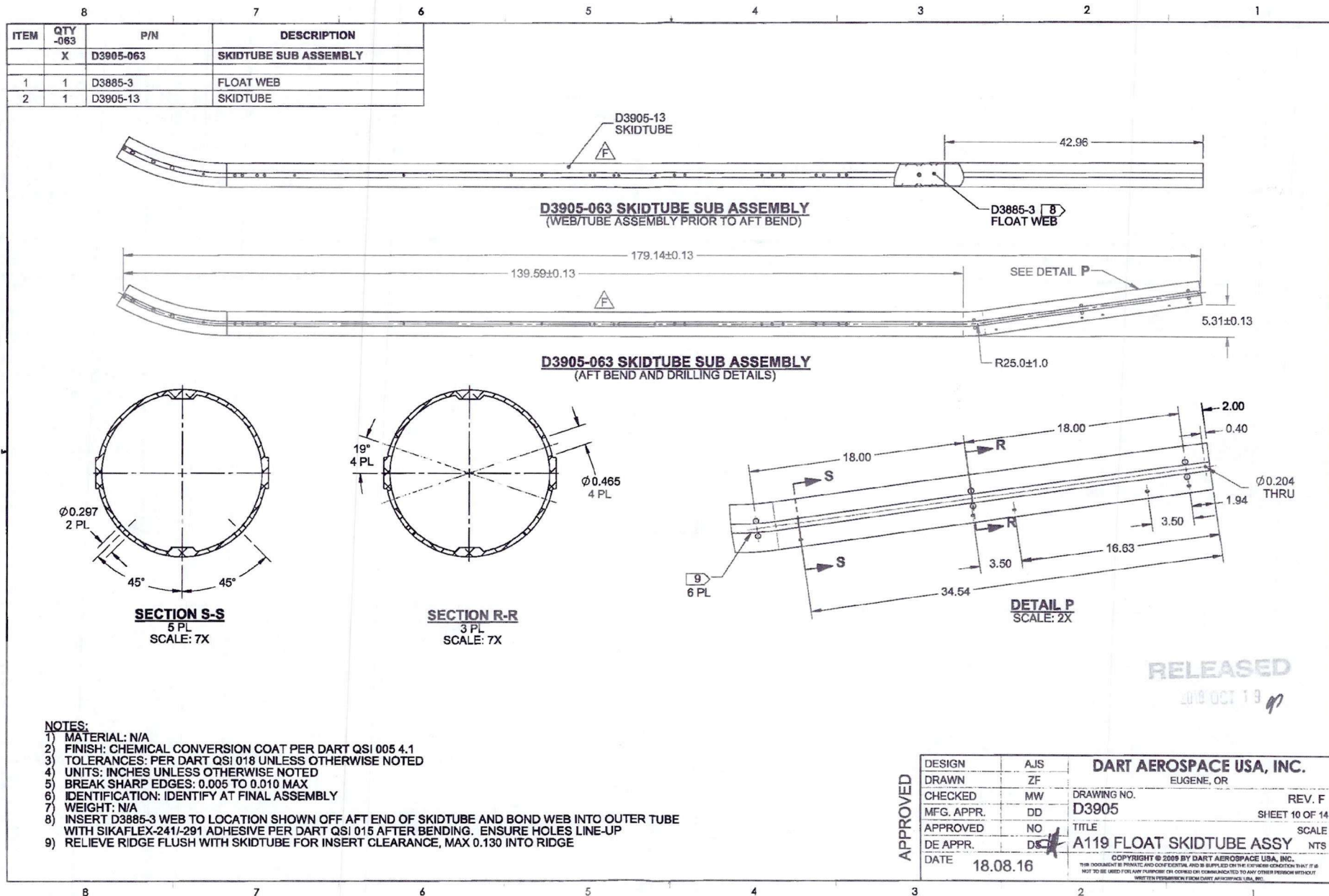


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐		Other/Details:			



Entered: _____ Date: _____

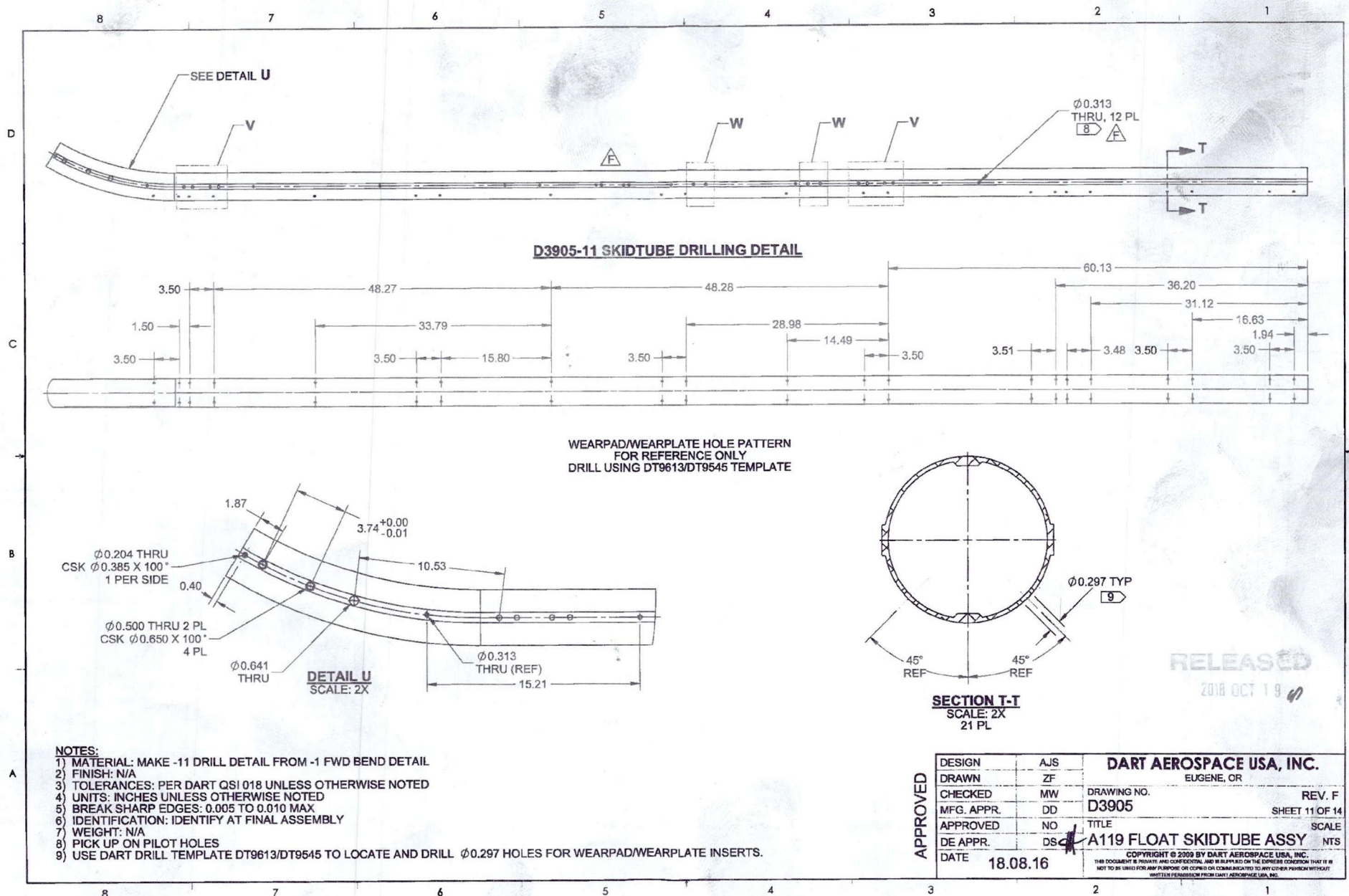


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
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Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

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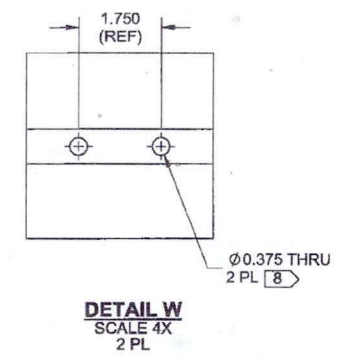
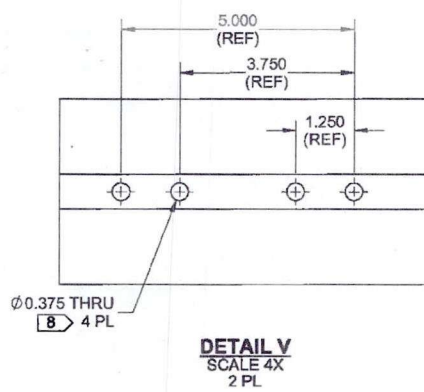
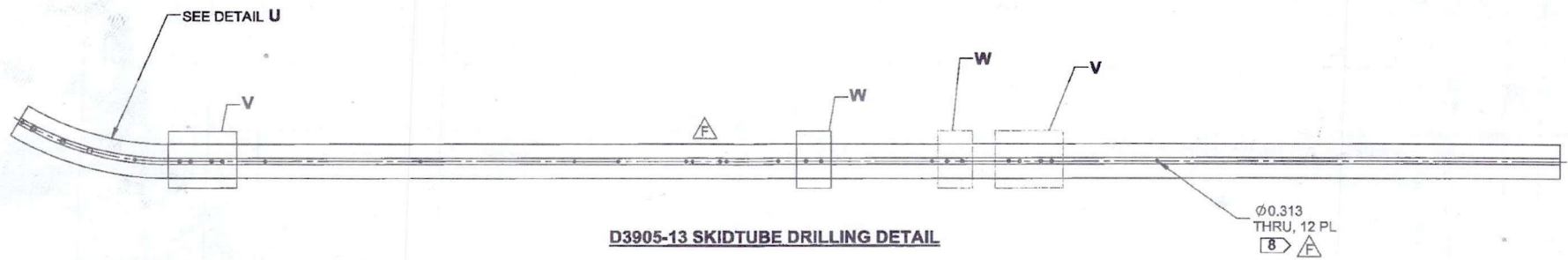
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RELEASED
2016 OCT 19

NOTES:

- 1) MATERIAL: MAKE -13 DRILL DETAIL FROM -1 FWD BEND DETAIL
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) PICK UP ON PILOT HOLES

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	APPROVED	NO	TITLE	SCALE
	DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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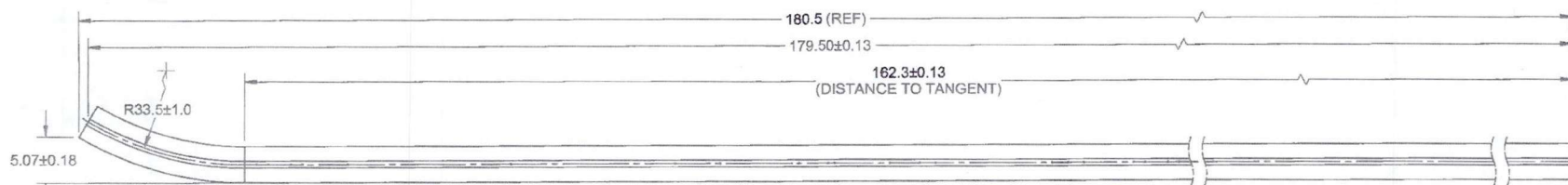


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D3905-1 SKIDTUBE FWD BEND DETAIL

RELEASED

2018 OCT 19

NOTES:

- 1) MATERIAL: MAKE -1 FWD BEND DETAIL FROM -3 PILOT HOLE DETAIL
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A
- 8) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

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DESIGN	AJS	DART AEROSPACE USA, INC.	
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CHECKED	MW	DRAWING NO.	REV. F
MFG. APPR.	DD	D3905	SHEET 13 OF 14
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DE APPR.	DS	A119 FLOAT SKIDTUBE ASSY	NTS
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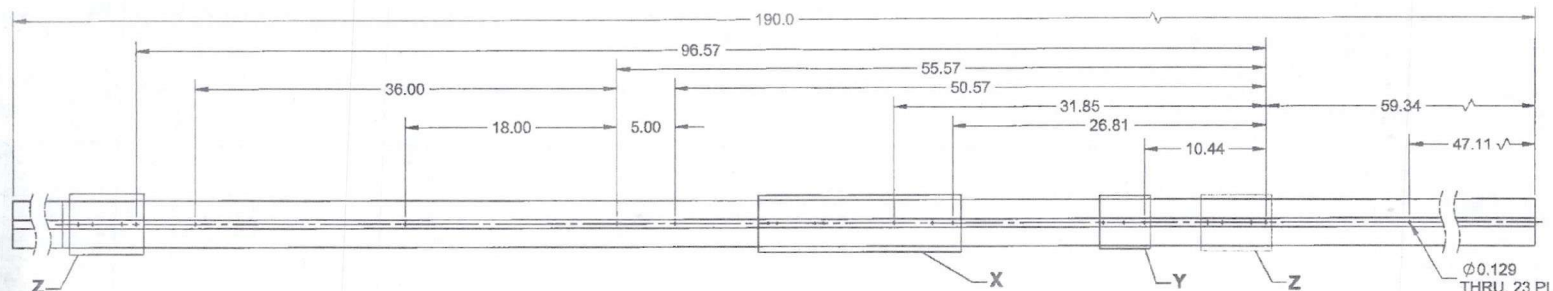


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

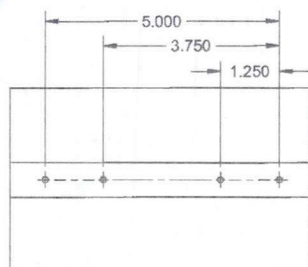
NCR No. _____

Route update only ☐

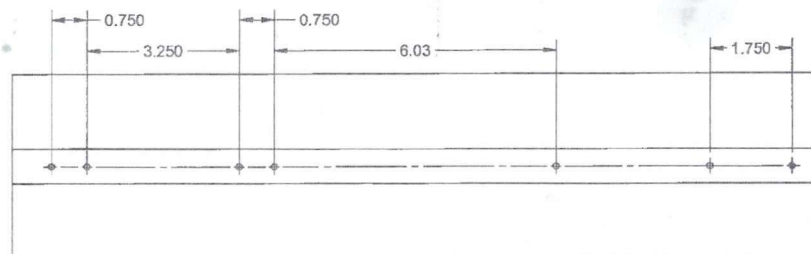
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



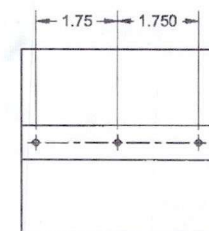
D3905-3 SKIDTUBE PILOT HOLE DETAIL



DETAIL Z
SCALE: 4X



DETAIL X
SCALE: 4X



DETAIL Y
SCALE: 4X

NOTES:

- 1) MATERIAL: MAKE FROM D2500-1-190 EXTRUSION
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT FINAL ASSEMBLY
- 7) WEIGHT: N/A

RELEASED

2018 OCT 19

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DESIGN	AJS	DART AEROSPACE USA, INC.	
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CHECKED	MW	DRAWING NO.	REV. F
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WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
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Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					